

86-006668/01 CIBA GEIGY CORP 21.10.83-US-544296 (10.10.85) C071-15/2 Ferric N-(2-hydroxyethyl) ethylene:di:amine tri acetic acid prepn. - by reacting iron powder with nitric acid and hydroxy-EDTA, oxidising and adjusting pH C86-003073	C04 12	CIBA 21.10.83 *US 4558-145-A	C(5-A3A, 10-B1B, 12-N9) 3 The process has the advantage of increased yields of (1) over prior art methods of prepn. REACTION CONDITIONS The iron powder is pref. of 60 mesh and added portion- wise keeping the temp. below 70°C. The oxidn. of the ferr- ous complex to ferric is carried out by bubbling through air or oxygen with stirring. EXAMPLE 70% HNO ₃ (252 g) was added to a 44.8% soln. of trisodium HO-EDTA (470 mg) to adjust the pH to 1.2 and then iron powder (40 mesh) (54.7 g) was added over a 2 hr. period to give a green aq. chelate soln. Further trisodium HO-EDTA was added and then air bubbled through at 90°C. After 2.5 hr., the colour of the soln. changed to red and the pH was adjusted to 5.2 - 5.8 with HNO ₃ to give the ferric chelate. (4pp 916HDDwgNo.0/0).
Prepn. of ferric OH-EDTA complex (1) comprises (1) adding nitric acid to an aq. soln. of 2/3 rd the stoichiometric equiv. of trisodium N-(2-hydroxyethyl)- ethylenediaminetriacetic acid based on Fe to adjust the pH to 1.0 to 1.4; (2) adding powdered iron at below 70°C to form a ferrous chelate; (3) adding trisodium N-(2-hydroxyethyl)ethylenediamine- triacetic acid to complete the stoichiometric requirement therefor; (4) contacting the resulting chelate with an oxygen source at 50-90°C to convert the ferrous chelate to ferric chelate; (5) adjusting the pH of the soln. to 5.0 to 6.0 to give a soln. contg. < 1% free OH-EDTA and 5.0 - 5.5 wt.% Fe in chelated form. USE/ADVANTAGE The chelates are used to correct iron deficiencies in soils.			1US4558145-A

BEST AVAILABLE COPY



Search



List



First



Prev



Next



Last

MicroPatent® PatSearch Inpadoc: [Complete Family of US4558145A]
1 record(s) found in the family

[Order Selected Patent\(s\)](#)

[no drawing available]

→ **US4558145A** ☐

Title: PREPARATION OF FE CHELATES

Application Date: 19831021

Application No: 83 544296

Publication Date: 19851210

IPC: C07F01502

National Classification: 556148

Inventor(s): SMITH; NELSON; STUTTS; JOSEPH W.

Applicant(s): CIBA GEIGY CORPORATION

Priority: US 83 544296 831021 A

Legal Status:

Date	+/-	Code	Description
19831021		AE	APPLICATION DATA (PATENT) US 1983 544296 A 19831021
19850925		AS02	ASSIGNMENT OF ASSIGNOR'S INTEREST CIBA-GEIGY CORPORATION, 444 SAW MILL RIVER ROAD, ARDSLEY, NEW YORK, A CORP. OF N * SMITH, NELSON : 19831013; STUTTS, JOSEPH W. : 19831013
19851210		A	PATENT
19900227	(-)	FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE 891210



Search



List



First



Prev



Next



Last